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Environmental Assessment

Forest Roads 316 and 625 Improvements

Mogollon Rim Ranger District, Coconino National Forest
Coconino County, Arizona

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Chapter 1 – PURPOSE AND NEED

This chapter describes the project scope, background, purpose and need for action, proposed action, objectives and measures, decision to be made, public involvement, issues, applicable laws and Executive orders, and project record availability.

PROJECT SCOPE

This Environmental Assessment (EA) is being prepared to analyze the effects of a proposed road improvement project under the National Environmental Policy Act (NEPA) and other relevant federal and state laws and regulations. The project alternatives include a variety of actions items such as, paving, widening, re-alignment, applying dust palliative and school bus turn-around. This Environmental Assessment discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and the alternatives. An interdisciplinary analysis on the proposed action is documented in the project record. Source documents from the project record are referenced throughout this EA by showing the document number in brackets [#]. This EA summarizes the project record to make the analysis results as clear as possible.

Background
Coconino County is requesting a modification to their existing Special Use Permit to maintain Forest Development Roads (FDR) 316 and 625 into private residential subdivisions. While these roads are Forest Service Development Roads, the main traffic is to and from the residences.

Coconino County Public Works Department has received complaints about road access by residents who use FDR 316 into Clear Creek Pines (CCP) Units 3 & 7, and FDR 625 into CCP Units 4, 5, & 6 [PR #22]. Dusty road conditions, potholes, and unsafe entry onto State Route 87 (SR87) are the chief complaints. The Coconino County Road Department retains the responsibility to maintain them in a safe and cost effective manner according to County Road Policies.

PURPOSE AND NEED FOR ACTION

The purpose of the proposed road improvement projects is to facilitate minor reconstruction and long term, cost effective, maintenance of Forest Development roads that are under a Maintenance Agreement and Special Use Authority with Coconino County Public Works Department. This proposal would address Coconino County's needs to:

- Bring both FDR 316 & 625 to current ADOT standards, which includes meeting Coconino County & State Safety Standards for 28 foot road widths, wider and well drained road beds, school bus turn-around and safe entrance for 625/SR87 interchange.
- Reduce airborne dust created by residential road travel to meet ADEQ air quality standards.
- Create a cost-effective solution for routine road maintenance.

Existing Conditions

- Current road width on both FDR 316 and 625 is 20 feet, which does not meet the County's Engineering Design and Construction Criteria (Oct. 2001) width of 28 feet for the volume and traffic these roads carry.
- The current drainage ditches are inadequate for the wet weather conditions, and water often runs across the surface, causing washout conditions in the monsoon season, and icy build-up in the winter.
- FDR 625 enters SR87 on a blind curve; limited visual sight distance for traffic either entering the highway or turning onto FDR 625 is unsafe.
- Currently, the school bus must make a backing turn immediately prior to picking up or dropping off students at the 316 road entrance onto the private land near CCP units 3 & 7. This violates school district safety policies.
- The current gravel surface creates high levels of dust during the dry early summer months. The existing air quality in this region is generally in compliance with Federal Ambient Air Quality Standards. There may be occasional acute violations of these Standards from traffic-induced airborne dust particles.
- Existing maintenance costs for FR316 and 625 are approximately $24,000 per year. This is significantly higher than other roads within the County network.

Desired Conditions:

- The roads meet current accepted County & State Safety Standards including the 28ft width standard per Coconino County Engineering and Design Criteria and a safe entrance from FDR 625 onto SR87 meeting ADOT design criteria.
- The wider, and well-drained roadbed provides safe access during wet weather conditions.
- The school busses have a safe place to turn around without driving through the entire subdivision, backing up, or blocking a driveway.
- Dust emissions are at or below the state standards for air quality.
- Maintenance costs will be commensurate with other roads in the County network.

PROPOSED ACTION

The proposed action is to authorize the County to make the following improvements:

FDR 316 into CCP 3 & 7:

- FDR 316 from the SR87 to the private property at CCP Units 3 & 7 would be widened to 28 feet.
- Drainage structures, such as culverts, ditches and run-outs would be installed, constructed or reconstructed as necessary to create better drainage.
- 1.5 miles would be paved with asphalt.
- A graveled school bus turnabout would be constructed on National Forest land adjacent to the subdivision boundary using the junction of 316/316A.
- A limited number of small diameter trees would be removed to accommodate the widening and drainage improvements.

FDR 625 into CCP 4, 5, & 6:

- FDR 625 from the SR87 to the private property at CCP Units 4, 5, & 6 would be widened to 28 feet.
- Drainage structures, such as culverts, ditches and run-outs would be installed, constructed, or

reconstructed as necessary to create better drainage.
- 1.1 miles would be paved with asphalt.
- The FDR625/SR87 intersection would be re-aligned to provide access onto a straight section of SR87.
- 190 total Ponderosa Pines, 5 of which are over 24" in diameter, would be removed to accommodate the widening, re-alignment and drainage improvements. 84% of the trees to be removed are less than 6" in diameter. This is based on tree surveys performed as part of the roadway realignment design as displayed in Appendix B. [PR #17]
- Approximately 2200 feet of former roadbed would be closed, rehabilitated and seeded with native grass seed.
- A deceleration lane would be constructed for westbound highway traffic turning north onto FDR 625.

There will be approximately 15 merchantable Ponderosa pine trees that will be removed to facilitate the realignment. These trees will likely be sold to and removed by a logging company. The remaining Utah and alligator juniper and gambel oak may be cut and removed by the local public who have in their possession a current fuel wood permit.

DECISION TO BE MADE

The Coconino National Forest Supervisor is the deciding official. The deciding official may decide to select the No Action Alternative, accept the Proposed Action, one of the Alternatives, or a modification of any of the Alternatives. The Forest Supervisor would also approve appropriate mitigation measures to implement any action alternative.

PUBLIC INVOLVEMENT

An integral and ongoing element of any environmental analysis is informing and involving interested and affected members of the public. The project was listed in the Spring 2001 Coconino National Forest Schedule of Proposed Actions (SOPA). The SOPA is an integral part of the Forests tribal consultation process. The SOPA was also mailed to environmental groups and State agencies. On May 15, 2001, scoping letters were sent to local residents describing the proposed action [PR #17]. 413 letters were sent, 98 responses were received. Of the 98 responses, approximately 59% were supportive of paving, widening, realignment and other improvements, and approximately 20% were not supportive of any improvements. The remaining 20% were general comments and questions. Responses that were non-supportive of the proposed action fell into 3 categories:

1. Adding pavement will increase traffic and therefore decrease security.
2. Adding pavement will increase speeds.
3. There may be increased maintenance costs due to adding pavement.

ISSUES

Issues are statements of problems to be solved or problems that may be created by the proposed action. Potential issues are collected and analyzed to ascertain which issues are significant in the NEPA context [40CFR 1500.4[g]]. Significant issues are those that meet five criteria.

- Issue is within the scope of the analysis;
- Issue is not decided by law, regulation or previous decision;
- Issue is related to the decision;
- Issue is amenable to scientific analysis rather than conjecture;
- Issue is not limited in extent, duration or intensity.

There were three issues of concern that the public brought up that were carried forward into alternatives. Below describes the disposition of these issues [PR #18].

Issue Number 1: Adding pavement will increase traffic and therefore decrease security is addressed in the Public Safety section.

Issue Number 2: Adding pavement will increase speeds. This issue is addressed in the Public Safety section.

Issue Number 3: There may be increased maintenance costs due to adding pavement. This issue is addressed in the Economics section.

Relationship to the Forest Plan
National Forest planning takes place at several levels: national, regional, forest and project levels. The Forest Roads 316 and 625 Improvements Environmental Assessment is a project-level analysis; its scope is confined to addressing the significant issues and possible environmental consequences of the project. It does not attempt to address decisions made at higher levels. It does, however, implement direction provided at those higher levels.

The Coconino National Forest Plan (USDA 1987) [PR #1] embodies the provisions of the National Forest Management Act (1976), its implementing regulations and other guiding documents. The Forest Plan sets forth in detail the direction for managing the land and resources of the Coconino National Forest. This EA tiers to and is consistent with The Coconino Forest Plan FEIS (USDA 1987), 40 CFR 1502.20. The objective of this EA is disclosure of Environmental effects of the proposed county roads project. The Forest Service is considering this proposal under the Authorities of the Federal Land Policy and Management Act of 1976.

APPLICABLE LAWS AND EXECUTIVE ORDERS

Shown below is a partial list of federal laws and executive orders pertaining to project-specific planning and environmental analysis on federal lands. While most pertain to all federal lands, some of the laws are specific to Arizona. Disclosures and findings required by these laws and orders are contained in Chapter 2 of this analysis.

- Endangered Species Act (ESA) of 1973 (as amended)
- Forest and Rangeland Renewable Resources Planning Act (RPA) of 1974 (as amended)
- National Forest Management Act (NFMA) of 1976 (as amended)
- Clean Water Act of 1977 (as amended)

- American Indian Religious Freedom Act of 1978
- Archeological Resource Protection Act of 1980
- Executive Order 11593 (cultural resources)
- Executive Order 12898 (environmental justice)
- Executive Order 13186 Jan. 11, 2001 (Migratory Bird Treaty Act)
- National Historic Preservation Act of 1966 (as amended)
- Wild and Scenic Rivers Act of 1968, amended 1986
- National Environmental Policy Act (NEPA) of 1969 (as amended)
- Clean Air Act of 1970 (as amended)

PROJECT RECORD AVAILABILITY

Additional documentation, including more detailed analyses of project area may be found in the project record located at the Blue Ridge Ranger Station. These records are available for public review pursuant to the Freedom of Information Act (5 U.S.C.552).

Chapter 2 – ALTERNATIVES

This chapter describes and compares the alternatives for the Forest Roads 316 and 625 Improvements. It includes a description of each alternative considered. This section also presents the alternatives in a comparative form, sharply defining the differences between each alternative and providing a clear basis for choice among options by the decision maker and the public.

This chapter describes alternatives considered but eliminated from detailed analysis, alternatives considered in detail, mitigation measures and monitoring.

Altogether, four (4) alternatives have been considered in detail and analyzed.

ALTERNATIVES CONSIDERED BUT ELIMINATED FROM DETAILED ANALYSIS

During scoping, the interdisciplinary team considered another alternative and determined that it would not be carried forward into detailed analysis. The following summarizes that alternative, with reasons why it was dropped from further study.

Specific to FRD 625, (re-align and widen but don't pave):
ADOT requires that all constructed entries onto State Highways be paved within their (ADOT's) R-O-W. Paving only the portion of the road within the ADOT R-O-W would create unnecessary additional construction costs to mobilize paving equipment and crews to a remote location for a very small quantity of work. Maintenance costs would increase because there would be two separate surface types to maintain.

ALTERNATIVES CONSIDERED IN DETAIL

As described earlier, alternatives are generated to address significant issues. During scoping, significant issues were raised over the type of surfacing (pavement) proposed. The County and the Forest Service collaborated on alternative ways to meet the purpose and need while addressing the concerns relative to surface treatment. Listed below are alternatives considered in detail:

Alternative #1 (Proposed Action; Widen, realign and pave):
Forest Developed Road 316 into CCP 3 & 7

- FDR 316 from the SR87 to the private property at CCP Units 3 & 7 would be widened to 28 feet.
- Drainage structures, such as culverts, ditches and run-outs would be installed, constructed or reconstructed as necessary to create better drainage.
- 1.5 miles would be paved with asphalt.
- A graveled school bus turnabout would be constructed on National Forest property adjacent to the subdivision boundary using the junction of FDR316/316A.
- A limited number of small diameter trees would be removed to accommodate the widening and drainage improvements.

Forest Developed Road 625 into CCP 4, 5, & 6

- FDR 625 from the SR87 to the private property at CCP Units 4, 5, & 6 would be widened to 28 feet.
- Drainage structures, such as culverts, ditches and run-outs would be installed, constructed or reconstructed as necessary to create better drainage.
- 1.1 miles would be paved with asphalt.
- The 625/SR87 intersection would be re-aligned to provide access onto a straight section of SR87.
- 190 total Ponderosa Pines, 5 of which are over 24" in diameter, would be removed to accommodate the widening, re-alignment and drainage improvements. 84% of the trees to be removed are less than 6" in diameter, (based on tree surveys performed as part of the roadway realignment design, Appendix B for details).
- Approximately 2200 feet of former roadbed would be closed, rehabilitated and seeded with native grass seed.
- A deceleration lane would be constructed for westbound highway traffic turning north onto FDR 625.

Grading and paving is expected to begin spring of 2004. Design development drawings are part of the project record.

Alternative #2 (No Action):
This alternative serves as a baseline with which the proposed action is compared and is a requirement of NEPA [40CFR 1502.14 [d]].

Under this alternative, none of the proposed action elements would be implemented and routine maintenance would continue to be done as it is currently.

Alternative #3 (Maintenance with a dust palliative, but no widening/straightening)
This alternative was generated to address concerns relative to decreased security that may result from increased traffic due to paving.

Forest Developed Road 316 into CCP 3 & 7

- FDR 316 from the SR87 to the private property at CCP Units 3 & 7 would not be widened to 28 feet.
- Drainage structures, such as culverts, ditches and run-outs would not be installed, constructed or reconstructed as necessary to create better drainage.
- 1.5 miles would not be paved with asphalt.
- A graveled school bus turnabout would not be constructed on National Forest land adjacent to the subdivision boundary using the junction of FDR316/316A.
- Small diameter trees would not be removed to accommodate the widening and drainage improvements.
- The surface of FDR 316 would be treated with a lignin (wood byproduct)-based dust palliative, which causes limited dust reduction. Dust control using palliatives consists of adding chemical and water slurry to the surface of a gravel or dirt/gravel road immediately before performing maintenance grading of the road surface.

Forest Developed Road 625 into CCP 4, 5, & 6

- FDR 625 from the SR87 to the private property at CCP Units 4, 5, & 6 would not be widened to 28 feet.

- Drainage structures, such as culverts, ditches and run-outs would not be installed, constructed or reconstructed.
- 1.1 miles would not be paved with asphalt.
- The 625/SR87 intersection would not be re-aligned to provide access onto a straight section of SR87.
- No Ponderosa Pine trees would be removed.
- Since no re-alignment of FDR 625 will take place there would be no need for closing, rehabilitation or seeding any roads with native grass seed.
- A deceleration lane would not be constructed for westbound highway traffic turning north onto FDR 625.
- The surface of FDR 625 would be treated with a lignin (wood byproduct)-based dust palliative, which causes limited dust reduction. Dust control using palliatives consists of adding chemical and water slurry to the surface of a gravel or dirt/gravel road immediately before performing maintenance grading of the road surface.

Alternative #4 (Widening FDR 316 and widening and straightening FDR 625; dust palliative on the road surfaces)

This alternative addresses the issue of safe ingress and egress to SR87 from FDR 625, and addresses air quality and drainage improvement issues as well. Based on received comments from the public, the gravel surface is perceived by some area residents as a deterrent to speeding. Leaving the gravel surface intact will mitigate the concern that a paved surface will lead to increased speeds on the road.

Forest Developed Road 316 into CCP 3 & 7

- FDR 316 from the SR87 to the private property at CCP Units 3 & 7 would be widened to 28 feet.
- Drainage structures, such as culverts, ditches and run-outs would be installed, constructed or reconstructed as necessary to create better drainage.
- 1.5 miles would not be paved with asphalt and only a dust palliative would be applied.
- A graveled school bus turnabout would be constructed on National Forest property adjacent to the subdivision boundary using the junction of FDR316/316A.
- A limited number of small diameter trees would be removed to accommodate the widening and drainage improvements.

Forest Developed Road 625 into CCP 4, 5, & 6

- FDR 625 from the SR87 to the private property at CCP Units 4, 5, & 6 would be widened to 28 feet.
- Drainage structures, such as culverts, ditches and run-outs would be installed, constructed or reconstructed as necessary to create better drainage.
- 1.1 miles would not be paved with asphalt and only a dust palliative would be applied.
- The 625/SR87 intersection would be re-aligned to provide access onto a straight section of SR87.
- 190 total Ponderosa Pines, 5 of which are over 24" in diameter, would be removed to accommodate the widening, re-alignment and drainage improvements. 84% of the trees to be removed are less than 6" in diameter, (based on tree surveys performed as part of the roadway realignment design, Appendix B for details).
- Approximately 2200 feet of former roadbed would be closed, rehabilitated and seeded with native grass seed.
- A deceleration lane would not be constructed for westbound highway traffic turning north onto FDR 625.

Table 1 Alternative Comparison Chart

Activity Description	Alternative 1 (Proposed Action, Realign and Pave)	Alternative 2 (No Action Routine Maintenance)	Alternative 3 (Routine Maintenance and Dust Control	Alternative 4 (Dust control, Widening and Realigning)
Close and rehabilitate 2200 feet FDR 625	YES	-	-	YES
Re-align 2000 feet of FDR 625 at SR87	YES	-	-	YES
Widen FDR 625 to 28' and improve drainage	YES	-	-	YES
Pave FDR 625 to subdivision boundary	YES	-	-	-
Dust palliative FDR 625	N/A (paved)	-	YES	YES
Construct deceleration lane at SR87/FDR 625	YES	-	-	-
Widen FDR 316 to 28 feet and improve drainage	YES	-	-	YES
Pave FDR 316	YES	-	-	-
Dust palliative FDR 316	N/A (paved)	-	YES	YES
School bus turnaround at Jct 316/316A	YES	-	-	YES

MITIGATION

To minimize resource impacts, mitigation measures are an integral part of the proposed action. The environmental effects described in Chapter 3 are predicted with the assumption that mitigation measures would be implemented. Mitigation measures are based on Best Management Practices (BMPs) found in the USFS Southwestern Region's Soil and Water Conservation Handbook (FSH 2509.22).

Mitigation measures for Heritage Resources in the project area are derived from archaeological compliance reports related to this project (Martine 2003), and direction provided in FSM 2360 and the USDA Forest Service, Region 3 Programmatic Agreement (1989). Any archeological sites discovered during construction will be mitigated pursuant to all applicable laws and regulations.

In Table 2, the **Effectiveness** column is included to give the reader an idea of how well these mitigation measures work from past experiences and/or research. The numbers correspond to the following results:

1. Almost always reduces impacts significantly. Almost always done in this situation.
2. Usually reduces significant impacts. Often done in this situation.
3. Effectiveness monitoring will be conducted during project implementation & other appropriate times.

Table 2 Mitigation Measures Required for Action Alternatives

#	Why	Mitigation	Effectiveness	Alt.
Soil and Water				
SW1	To reduce concentration of water runoff, thus minimizing soil detachment & sediment transport.	Install drainage structures in roads to reduce concentration of water runoff. Road drainages shall direct flow into stable areas of vegetation & cover.	1	1, 4
SW2	To break up concentrations of water & sediment flow & prevent road undercutting.	Install new culvert outfalls with either riprap or another form of energy dissipater, if applicable.	1	1, 4
SW3	To minimize sediment delivery into drainage.	If needed, gravel and/or install erosion structures on roads, where activities cross drainages. (24.25, 41.14, 41.15, 41.2, 41.26)[1]	1	4
SW4	To minimize soil erosion.	Seed slopes & mulch where necessary. Seed & mulch slopes near drainages. (41.12, 25.18, FP Travel-4)	2	1, 4
SW5	To avoid soil movement.	Revegetate slopes within the project area less than 3:1 slope. (41.16,41.27,41.28,25.18,41.5).	1	1, 4
SW6	To comply with state and Federal water quality standards by minimizing soil erosion through the stabilizing influence of vegetation ground cover.	Seed or revegetate disturbed areas with approved seed mixture. (25.18) (41.5)	1	1, 4
SW7	To minimize soil compaction, soil detachment & sediment transport. To maintain long-term soil productivity.	Schedule operations, construction & ditch/road maintenance activities during periods when probabilities for rain & runoff are low. Equipment shall not be operated when ground conditions are such that unacceptable soil compaction or displacement results. (24.13, 41.11)	2	1, 4

[1] Number of BMP from FSH 2509.22

#	Why	Mitigation	Effectiveness	Alt.
SW8	To minimize erosion from construction.	Storm water Pollution Protection Plans will be required of all contractors prior to beginning construction on any portion of the project that will disturb existing native soils and/or vegetation.	2	1, 4
Noxious Weeds				
NW1	To minimize weed spread or introduction of noxious weeds.	Use only certified weed free seed and weed free mulch to revegetate areas [PR #26].	2	1,4
NW2	To minimize weed spread.	If noxious weeds become established within the project area due to the implementation of this project, Coconino County will take measures to remove them. [PR #26].	1	1,4
Heritage Resources				
HR1	To ensure good communications.	ADOT is responsible for notifying the District or Forest Archaeologist prior to initiation of project activities.	1	1,4
HR2	Minimize impacts to existing archeological sites.	If previously undocumented prehistoric or historic archaeological sites are encountered during the course of the project, these sites will be avoided and reported to the District or Forest Archaeologist.	1	1,4
HR3	Minimize impacts to existing archeological sites.	If significant subsurface cultural deposits are found at site AR-03-04-07-116 or AR-03-04-07-117, project work in the area will stop until a formal evaluation of the deposits is conducted by a District or Forest Archaeologist.	1	1,4

#	Why	Mitigation	Effectiveness	Alt.
Public Safety				
S1	To minimize safety hazards during construction.	County Engineer approves Traffic Control Plan (T.C.P.) prior to start of construction.	1	1,4
S2	Safety guidelines will match new conditions.	A County Sign Plan will provide signage to match new road conditions.	3	1,4
S3	For protection of motorists and construction personnel.	Additional enforcement to reduce speeding.	1	1,4

MONITORING

All projects require periodic monitoring of resources or activities on a representative sample basis in order to establish long-term trends, assess the impacts of land management activities, determine how well objectives have been met, and check compliance with established standards. Most of the monitoring activities will be ongoing as the project progresses through its various stages. The mitigation measures described above include some monitoring activities. Road use regulations contain environmental clauses that are included within the construction contract to ensure environmental protection and to assure that contractual obligations are met.

Why	Monitoring	Effectiveness	Alt.
Noxious Weeds			
Minimize spread or introduction of noxious weeds.	Specify weed -free planting & construction procedures. Reference the Northern Arizona Integrated Weed Management Practices, 2003, *Engineering/Roads/Minerals section, page 14.*	1	1,4
To ensure no noxious weeds were introduced or become established.	Post-project monitoring for noxious weed introduction will be done at the beginning of the new growing season.	1	1,4
Heritage Resources			
Minimize impacts to existing archeological sites	Site-specific mitigation measures will be taken to minimize impacts to sites that may be revealed during construction. Mogollon Rim District Archeologist will be present during construction where archeological sites are present. Avoidance will be the primary mitigation mechanism.	2	1,4
Minimize impacts to archeological sites.	Maintain compliance with the National Historic Preservation Act of 1966. Avoid disturbance of known archeological resource.	1	1,4
Public Safety			
To monitor traffic speeds.	Place traffic counters capable of measuring speed will be placed on the pavement near subdivision entrances after pavement is installed. Results from these speed studies will be used to design appropriate mitigation measures, if needed. Mitigation measures may include speed humps, or other such traffic 'calming' measures.	1	1,4

Chapter 3 - AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

This chapter describes the effects the alternatives, if implemented, would have within the project area. Some environmental effects are confined to the proposed project area. Others are cumulative with environmental effects from past, present, or reasonably foreseeable actions in or near the project area.

The major issues define the scope of the environmental concern for this project. The environmental effects (changes from present baseline condition) that are described in this chapter reflect the identified major issues.

ECONOMICS

Affected Environment

Under the existing conditions, FDRs 316 and 625 serve a total of 441 single-family residential lots. It is estimated that 50% of these lots are primarily used as summer homes, with the commensurate seasonal fluctuations in traffic. Existing traffic levels require weekly grading of FDRs 316 and 625 to minimize the adverse affects of dust and washboard conditions. FDR 316 is 1.1 miles and FDR 625 is 1.5 miles of gravel surface. Recent trends show an increase in traffic and commensurate increase in maintenance requirements [PR #7].

Environmental Consequences

Alternative #1 (Proposed Action; Widen, realign and pave):
Table 3 illustrates the difference in maintenance costs between gravel/dirt and paved roads. Maintaining the reconstructed FDR 316 as a paved roadway would cost $17,656 per year. Maintaining the reconstructed FDR 625 as a paved roadway would cost $10,852 per year. Paving FDRs 316 and 625 as set forth in the Proposed Action would yield annual maintenance savings of $4,147 if the pavement is amortized over a 20-year pavement life. Built into the cost estimates for this alternative is the absence of the weekly cost of grading these roads.

This alternative meets the Purpose and Need as stated in Chapter 1 for meeting cost-effectiveness for routine road maintenance.

Alternative #2 (No Action Alternative):
Given the total county-maintained length for each FDR, the annual cost for continued maintenance of FDRs 316 and 625 per their existing maintenance schedule will be $20,244 and $12,411, respectively.

The annual costs for continued maintenance are higher than Alternative 1 because grading is required once per week during summer months and during stretches of inclement weather where roads are damaged and require grading and ditches maintained. Maintenance costs are affected by the price of petroleum, labor, and other factors, and could be subject to annual increases to address these factors. Dust and washboard road surfaces will continue at their present levels, with attendant effects on property values.

This alternative does not meet the Purpose and Need as stated in Chapter 1 as well as Alternative #1 for cost-effectiveness.

Alternative #3 (Maintenance with a dust palliative, but no widening/straightening):
This alternative would reduce dust pollution, but maintenance grading is still required (as frequently as once per week in the summer season), and palliatives applied in arid climates require frequent re-application to be effective. The annual cost for continued maintenance of FDRs 316 and 625 will be the same as for grading the roads in their existing condition ($20,244 and $12,411, respectively) plus the cost of regular application of a lignin-based dust palliative. It is estimated that palliative will cost approximately $6000 per mile-year (estimated at 6 applications per year), bringing total annual maintenance costs under Alternative #3 to $29,244 for FDR 316 and $19,011 for FDR 625.

This alternative does not meet the Purpose and Need as stated in Chapter 1 as well as Alternative #1 for cost-effectiveness.

Alternative #4 (Widening FDR 316 and widening/straightening FDR 625, dust palliative on road surfaces):
Because of the wider road surface, the annual maintenance cost for grading and placing dust palliative on the widened/straightened FDRs 316 and 625 would be somewhat higher than for Alternative #3 above. Road widths are generally increasing 33% (from 21 ft to 28ft), and it is assumed maintenance costs will increase in direct proportion to the total maintained area. Accordingly, maintenance costs will be $38,982 for FDR 316 and $25,342 for FDR 625, including four palliative applications per year.

This alternative has the highest cost of all the alternatives and does not meet the Purpose and Need as stated in Chapter 1 for cost effectiveness.

Table 3 Relative Cost Effectiveness of Alternatives

	Alternative #1, Proposed action; Widen, realign and pave	**Alternative #2, No Action**	**Alternative #3, Dust Palliative; No widening or straightening**	**Alternative #4, Dust Palliative, Widen and straighten**
FDR 316 Annual Maintenance Cost	$17,656	$20,244	$29,244	$38,982
FDR 625 Annual Maintenance Costs	$10,852	$12,411	$19,011	$25,342
TOTAL	$28,508	$32,655	$48,255	$64,324

The Proposed Action best addresses the Purpose and Need criteria in that it is the most cost effective method to eliminate potholes, dusty road conditions, high maintenance costs, unsafe school bus turnaround conditions, unsafe drainage-related conditions, and unsafe entry of traffic onto State Route 87.

WILDLIFE

Affected Environment

This section summarizes the affected environment and environmental consequences, including survey data, for two federally listed species (Mexican Spotted Owl, Bald Eagle) and a sensitive species that remains on the updated 1999 Forest Service Sensitive Species List and which was evaluated as potentially occurring in the project area (Northern Goshawk) [PR #5, 9, 20, 24, 27].

Threatened, Endangered, and Sensitive Species

- **Mexican Spotted Owl (MSO)**
  MSO generally nest in relatively closed-canopy ponderosa pine/mixed-conifer forest associated with steep canyons or north-facing slopes in the northern and eastern portions of the state and with deciduous vegetation in steep canyons in the southern and southeastern portions of the state. The MSO Recovery Plan identifies primary constituent elements (i.e., habitat features that support nesting, roosting, and foraging) for forest and canyon habitats, including ponderosa pine, mixed-conifer, spruce-fir, Chihuahua pine, quaking aspen, and riparian forest cover types. Important attributes of these habitats are a high basal area of large diameter trees, moderate to high canopy closure, uneven-aged stand structure, multi-layered canopy, high snag basal area, high volume of fallen trees and other woody debris, high plant species richness, and residual plant cover for prey species. The recovery plan also identifies restricted habitat types, including pine-oak forest, for which general and specific management recommendations are made.

  The project areas support predominantly ponderosa pine forest, which is transitional to pinyon-juniper woodland and includes Utah and alligator juniper, pinyon pine, and Gambel oak. These areas do not meet the definition of restricted (pine-oak) habitat identified in the MSO Recovery plan. Three years of surveys were conducted (1994, 1995, 2002); no MSO were located in the immediate vicinity of the project areas. There is no MSO nesting or roosting habitat within 2 miles of the project areas; the nearest MSO Protected Activity Center (PAC) is more than 2 miles away. The project areas do not contain designated critical habitat for MSO.

- **Bald Eagle**
  Bald eagles nest primarily along the major waterways and reservoirs in the state, including the Gila, Salt, Verde, and Bill Williams Rivers. The large majority of resident eagles nest along Salt and Verde Rivers in the central part of the state, generally at lower elevations. An estimated 200 to 250 bald eagles winter throughout Arizona. The bald eagle is being considered for de-listing, but is still fully protected under the ESA at this time.

  The project area does not support extensive perennial riparian or aquatic habitat and therefore does not contain nesting habitat for Bald Eagles. Bald Eagles may migrate through the project area and occur as winter visitors in the general project vicinity, primarily using the area as foraging habitat.

- **Northern Goshawk**
  Northern Goshawks nest in coniferous forest in the mountains and on the high plateaus. Along the Mogollon Rim, Northern Goshawks nest in relatively open, mature stands of ponderosa pine and forage preferentially in unmanaged stands with high canopy closure, high tree density, and high density of large (16” dbh) trees. Female goshawks use their breeding season home range in

ponderosa pine forests throughout the year, while males move into lower elevation pinyon-juniper woodlands in winter.

The project areas do not support nesting habitat for the Northern Goshawk, but represent possibly suitable winter habitat. Surveys conducted during the nesting season in 1994 did not locate any Northern Goshawks in the immediate vicinity of the project areas. The project areas do not include designated post-fledging areas (PFAs) for this species. Two nest stands are each located about two miles from the project area.

Environmental Consequences

Alternative #1 (Proposed Action; Widen, realign and pave):
This alternative would result in the removal of 24 pines over 18" dbh and 36 oaks over 6"dbh along FDR 316 and the removal of 53 pines over 18" dbh, 118 oaks over 6"dbh, and 12 junipers over 6"dbh along FDR 625 including the realignment segment near SR 87 [PR #17]. Paving would likely result in increased traffic volume and higher speeds by vehicles using these roadway segments.

- **Mexican Spotted Owl**
  This alternative would not affect MSO nesting, roosting or foraging habitat. There would be no cumulative effects due to this project.

- **Bald Eagle**
  This alternative would not affect Bald Eagle nesting habitat. The removal of some larger diameter ponderosa pines may reduce the number of recruitment perch sites for wintering/foraging eagles. No snags would be removed and many other snags and recruitment perch sites would remain in the project vicinity. Therefore, impacts to recruitment perch sites for Bald Eagles would be minimal and would not reduce the foraging success of wintering/transient birds that occasionally occur in the project vicinity. There would be no cumulative effects due to this project.

- **Northern Goshawk**
  This alternative would not affect Northern Goshawk nesting habitat. Increased traffic volume and speed due to paving could further reduce the quality of potential foraging habitat. The project is located about two miles from two separate nest locations, and is theoretically within potential foraging habitat, however, superior foraging habitat is located away from the project. The importance of the project areas as potential foraging habitat for goshawks is likely limited by habitat characteristics, proximity to SR 87, and existing traffic use along FDR 316 and 625.

  Cumulative impacts include those from other projects which increase traffic volume and speed in the foraging area of the two goshawk territories. Increases in population within Clear Creek Pine Units 3, 4, 5, 6, and 7, and Starlight Pine, and the recent development of the new subdivision Pine Canyon, are resulting in increase traffic volume in the area. This project to improve Forest Service Roads 316 and 625 would contribute a very small proportion of this overall increase in traffic volume. The superiority of foraging habitat in areas inaccessible to vehicles and away from the developments would limit the cumulative effects to goshawks in these two territories.

Alternative #2 (No Action Alternative):

Under this alternative, there would be no removal of trees as a result of roadway widening and realignment. Activities would be restricted to routine maintenance activities within the existing road profile.

- **Mexican Spotted Owl**
  This alternative would not affect MSO nesting, roosting or foraging habitat. There would be no cumulative effects.

- **Bald Eagle**
  This alternative would not affect Bald Eagle nesting habitat, nor would it affect potential perch sites (large diameter pines) for wintering/foraging eagles along the two roadway segments. There would be no cumulative effects.

- **Northern Goshawk**
  This alternative would not affect Northern Goshawk nesting habitat. It would result in the retention of existing ponderosa pines, junipers, and oaks in areas of potentially suitable year-round foraging habitat for this species. There would be no cumulative effects.

Alternative #3 (Maintenance with a dust palliative, but no widening/straightening):
Like Alternative # 2 (No Action), there would be no removal of trees as a result of roadway widening and realignment under this alternative. Activities would be restricted to routine maintenance activities within the existing road profile, which would include the application of lignin-based dust palliative during grading operations.

- **Mexican Spotted Owl**
  Environmental consequences with regard to MSO would be the same as Alternative # 2 (No Action). This alternative would not affect MSO nesting, roosting or foraging habitat. There would be no cumulative effects.

- **Bald Eagle**
  Environmental consequences with regard to the Bald Eagle would be the same as Alternative # 2 (No Action). This alternative would not affect nesting habitat and potential perch sites (large diameter pines) for wintering/foraging eagles. There would be no cumulative effects.

- **Northern Goshawk**
  Environmental consequences with regard to the Northern Goshawk would be the same as Alternative # 2 (No Action). This alternative would not affect Northern Goshawk nesting habitat or potential foraging habitat. There would be no cumulative effects.

Alternative #4 (Widening FDR 316 and widening/straightening FDR 625, dust palliative on road surfaces):
Like Alternative #1 (Proposed Action), this alternative would result in the removal of 24 pines over 18" dbh and 36 oaks over 6" dbh along FDR 316 and the removal of 53 pines over 18" dbh, 118 oaks over 6" dbh, and 12 junipers over 6" dbh along FDR 625 and along the realignment segment near SR 87 [PR #17]. In contrast to the Proposed Action, this alternative would result in the application of dust palliative to the roadway segments instead of paving. Widening of FDR 316 and widening and

realignment of FDR 625 would be expected to result in somewhat higher traffic volumes and speeds compared to the existing condition, but lower traffic volumes and speeds compared to the Proposed Action, which includes paving.

- **Mexican Spotted Owl**
  Environmental consequences with regard to MSO would be similar to Alternative # 1 (Proposed Action). This alternative would not affect MSO nesting, roosting or foraging habitat or designated critical habitat. Lower traffic volume and speed on these roadway segments relative to the Proposed Action would not have a measurable differential effect on MSO. There would be no cumulative effects.

- **Bald Eagle**
  Environmental consequences with regard to the Bald Eagle would be similar to Alternative # 1 (Proposed Action). This alternative would not affect Bald Eagle nesting habitat. The removal of some larger diameter ponderosa pines may reduce the number of potential perch sites for wintering/foraging eagles. No snags would be removed and many other potential perch sites would remain in the project vicinity. Therefore, impacts to potential perch sites for Bald Eagles would be minimal and would not be expected to reduce the foraging success of wintering/transient birds that occasionally occur in the project vicinity. Lower traffic volume and speed under this alternative relative to the Proposed Action should not affect potential eagle foraging, which often occurs along roadways with considerably higher traffic volumes and speeds, including SR 87. There would be no cumulative effects.

- **Northern Goshawk**
  Environmental consequences with regard to the Northern Goshawk would be similar to Alternative # 1 (Proposed Action). This alternative would not affect Northern Goshawk nesting habitat. The importance of the project areas as foraging habitat for goshawks is limited by managed stand characteristics, proximity to SR 87, and existing traffic use along FDR 316 and 625. Somewhat lower traffic volume and speed on these roadway segments relative to the Proposed Action would not have a measurable differential effect on potential foraging habitat.

  This alternative would not affect Northern Goshawk nesting habitat. Increased traffic volume and speed due to paving could further reduce the quality of potential foraging habitat. The project is located about two miles from two separate nest locations, and is theoretically within potential foraging habitat, however, superior foraging habitat is located away from the project. The importance of the project areas as potential foraging habitat for goshawks is likely limited by habitat characteristics, proximity to SR 87, and existing traffic use along FDR 316 and 625.

  Cumulative effects include increased traffic in subdivisions within the foraging areas of the two goshawk territories, and loss of habitat in those subdivisions. This project would contribute a very small amount of the total increase, and superior foraging habitat away from the subdivisions would limit the potential for impacts.

GAME AND NON-GAME SPECIES

Affected Environment

The project areas support game and non-game wildlife typical of pine forest. The general wildlife community is expected to include game species such as wild turkey, mule deer, elk, cottontails, and squirrels and non-game species such as bats, Coopers and red-tailed hawks, great horned owls, and a number of smaller mammals, passerine birds, and reptiles. Some of these species are also Management Indicator Species and are discussed in detail further in the document. A relatively high number of passerine birds in ponderosa pine habitat are secondary cavity nesters.

Environmental Consequences

Alternative #1 (Proposed Action; Widen, realign and pave):
This alternative would result the cumulative removal of about 6.7 acres of pine forest habitat along FDR 316 and FDR 625. Most of the vegetation would be removed in areas immediately adjacent to the existing roadway segments and near SR 87. Wildlife use of these areas is likely limited due to the presence of roads and the associated traffic. Since no snags would be removed, there would be few impacts to cavity-nesting birds. Potentially increased traffic volume and speed may result in an increase in wildlife-vehicle collisions along these roadway segments. This may result in increased mortality of game species, such as mule deer, elk, squirrel, and turkey, and non-game species such as rodents and reptiles. Increased traffic-related mortality would not substantially affect population dynamics of wildlife species in the area.

The development of new subdivisions in the area cumulatively reduce the amount of habitat for game and non-game wildlife. This project removes 6.7 acres of habitat, compared to a rough estimate of about 1500 acres of habitat removed for new subdivisions. Therefore the contribution of this project is inconsequential. Increased traffic along SR 87 and in the new subdivisions that would result in increased mortality to game and non-game species also dwarfs the contribution of this project.

Alternative #2 (No Action Alternative):
Under this alternative, there would be no removal of trees as a result of roadway widening and realignment and activities would be restricted to routine maintenance activities within the existing road profile. This alternative would have no effect on game and non-game species beyond the existing condition. There would be no cumulative effects.

Alternative #3 (Maintenance with a dust palliative, but no widening/straightening):
Environmental consequences of this alternative would be similar to those under Alternative #2 (No Action). Periodic application of dust palliative to the road surface would reduce dust, but would not substantially increase traffic volume or speed on these roadway segments. There would be no effects on game and non-game species beyond the existing condition. There would be no cumulative effects.

Alternative #4 (Widening FDR 316 and widening/straightening FDR 625, dust palliative on road surfaces):
Environmental consequences of this alternative would be similar to those under Alternative #1 (Proposed Action). Periodic application of dust palliative to the road surface would reduce fugitive dust. Widening of FDR 316 and widening and re-alignment of FDR 625 would result in higher traffic volume and speed, but these would be lower than under the Proposed Action which proposes pavement. This

alternative may result in an increase in traffic-related wildlife mortality over the existing condition, but this would be less than under the Proposed Action. Like the Proposed Action, the potential increase in traffic-related wildlife mortality under this alternative would not affect overall population dynamics of wildlife species in the area. The cumulative effects contributed by this project through increased traffic volume and loss of habitat are negligible.

HABITAT COMPONENTS

Affected Environment

The project areas are located within the Blue Ridge Urban Interface (BRUI) analysis area, which has been evaluated for habitat components including old growth, thermal cover, and hiding cover.

- **Old growth**
  A total of 536 acres of existing old growth and 537 acres of developing old growth have been identified within the BRUI analysis area. No old growth occurs in the project area.

- **Thermal Cover**
  Thermal cover has been designated on 179 acres of the BRUI analysis area. No thermal cover occurs in the project area.

- **Hiding Cover**
  Approximately 26,000 acres of hiding cover has been identified within the BRUI analysis area The project areas support a maximum of 6.7 acres of hiding cover, consisting primarily of ponderosa pine, juniper, and Gambel oak seedlings and saplings. The quality of the areas adjacent FDR 316 and 625 as hiding cover is reduced due to existing traffic use of these roadway segments.

Environmental Consequences

Alternative #1 (Proposed Action; Widen, realign and pave):

- **Old Growth**
  This alternative would have no effect on either existing or developing old growth identified within the BRUI analysis area. There would be no cumulative effects.
- **Thermal Cover**
  This alternative would have no effect on the 179 acres of thermal cover designated within BRUI analysis area. There would be no cumulative effects.
- **Hiding Cover**
  This alternative would cumulatively remove a maximum of 6.7 acres of marginal hiding cover along FDR 316 and FDR 625, representing about 0.03% of the hiding cover available in the BRUI analysis area. Substantial amounts of hiding cover would remain within the BRUI analysis area. There would be no cumulative effects.

Alternative #2 (No Action Alternative):

- **Old Growth**

This alternative would have no effect on either existing or developing old growth identified within the BRUI analysis area. There would be no cumulative effects.

- **Thermal Cover**
  This alternative would have no effect on thermal cover designated within BRUI analysis area. There would be no cumulative effects.
- **Hiding Cover**
  This alternative retains up to 6.7 acres of marginal hiding cover along FDR 316 and FDR 625, representing about 0.03% of the hiding cover available in the BRUI analysis area. There would be no cumulative effects.

Alternative #3 (Maintenance with a dust palliative, but no widening/straightening):

- **Old Growth**
  This alternative would have no effect on either existing or developing old growth identified within the BRUI analysis area. There would be no cumulative effects.
- **Thermal Cover**
  This alternative would have no effect on thermal cover designated within BRUI analysis area. There would be no cumulative effects.
- **Hiding Cover**
  This alternative retains up to 6.7 acres of marginal hiding cover along FDR 316 and FDR 625, representing about 0.03% of the hiding cover available in the BRUI analysis area. There would be no cumulative effects.

Alternative #4 (Widening FDR 316 and widening/straightening FDR 625, dust palliative on road surfaces):

- **Old Growth**
  This alternative would have no effect on either existing or developing old growth identified within the BRUI analysis area. There would be no cumulative effects.
- **Thermal Cover**
  This alternative would have no effect on thermal cover designated within BRUI analysis area. There would be no cumulative effects.
- **Hiding Cover**
  This alternative would cumulatively remove a maximum of 6.7 acres of marginal hiding cover along FDR 316 and FDR 625, representing about 0.03% of the hiding cover available in the BRUI analysis area. Substantial amounts of hiding cover would remain within the BRUI analysis area. There would be no cumulative effects.

MANAGEMENT INDICATOR SPECIES

Affected Environment

The project area is located within Management Area 3. Management Indicator Species (MIS) for this Management Area include wild turkey, northern goshawk, pygmy nuthatch, elk, Abert's squirrel, red squirrel, hairy woodpecker, and MSO. Wild turkey, northern goshawk, and pygmy nuthatch are indicator species for late seral stage ponderosa pine habitat. Elk is an indicator for early seral stage ponderosa pine, mixed conifer, and spruce-fir habitats. Abert's squirrel is an indicator for early seral stage ponderosa pine forest. Hairy woodpecker is an indicator for the snag component of ponderosa

pine, mixed-conifer, and spruce-fir habitats. Red squirrel and MSO are indicators for late seral stage mixed-conifer and spruce-fir [PR #28].

Environmental Consequences

Alternative #1 (Proposed Action; Widen, realign and pave):
This alternative would result the cumulative removal of about 6.7 acres of pine forest habitat along FDR 316 and FDR 625. The project areas support primarily early seral stage ponderosa pine. They lack late seral stage ponderosa pine, mixed conifer, spruce-fir, and snags. This alternative would therefore not affect wild turkey, northern goshawk (other than reduced quality of potential foraging habitat), pygmy nuthatch, hairy woodpecker, red squirrel, or MSO. Removal of trees would reduce habitat quality for two MIS, elk and Abert's squirrels. These species may also experience increased traffic-related mortality associated with higher traffic volume and speed due to roadway paving.

The cumulative effects contributed by this project through increased traffic volume and loss of habitat are negligible. This project would not affect the Forest-wide population trend for elk or Abert's squirrels.

Alternative #2 (No Action Alternative):
Under this alternative, there would be no removal of trees as a result of roadway widening and re-alignment and activities would be restricted to routine maintenance activities within the existing road profile. This alternative would have no effect on MIS beyond the existing condition. There would be no cumulative effects. There would be no changes in Forest-wide population trends for any MIS.

Alternative #3 (Maintenance with a dust palliative, but no widening/straightening):
Environmental consequences of this alternative would be similar to those under Alternative #2 (No Action). Periodic application of dust palliative to the road surface would reduce fugitive dust, but would not substantially increase traffic volume or speed on these roadway segments. No increase in traffic-related mortality to elk or Abert's squirrels would be expected as a result of actions taken under this alternative.

There would be no cumulative effects. There would be no changes in Forest-wide population trends for any MIS.

Alternative #4 (Widening FDR 316 and widening/straightening FDR 625, dust palliative on road surfaces):
Environmental consequences of this alternative would be similar to those under Alternative #1 (Proposed Action). Periodic application of dust palliative to the road surface would reduce fugitive dust. Widening of FDR 316 and widening and realignment of FDR 625 would result in higher traffic volume and speed, but these would be lower than under the Proposed Action which proposes pavement. This alternative may result in an increase in traffic-related mortality of elk and Abert's squirrels over the existing condition, but this would be less than under the Proposed Action.

The cumulative effects contributed by this project through increased traffic volume and loss of habitat are negligible. There would be no changes in Forest-wide population trends for any MIS.

MIGRATORY BIRDS

Affected Environment

The Arizona Partners in Flight Bird Conservation Plan identifies four priority species for pine habitat in Arizona: northern goshawk, olive-sided flycatcher, Cordilleran flycatcher, and purple martin. The project areas do not support nesting habitat for the northern goshawk, but represent potential foraging habitat. Olive-sided flycatchers are associated with forest edges and openings, including burned areas. This species may nest in or near the project area, although its occurrence is not known. Cordilleran flycatchers nest preferentially in moist, shaded forest and are often found in canyon or drainage bottoms.

Although they use a variety of nest substrates (including rock crevices, tree roots, and forks in small branches), the relative abundance of Cordilleran flycatcher is positively correlated with snag density in Arizona pine forests. Habitat in the project area is considered poor for this species due to the lack of shaded drainages, high canopy cover, and snags. Purple martins nest in snags and prefer areas with high snag density next to or near open areas or near open water. No habitat for purple martins occurs in or near the project areas.

Environmental Consequences

Alternative #1 (Proposed Action; Widen, realign and pave):
This alternative would result the cumulative removal of about 6.7 acres of pine forest habitat along FDR 316 and FDR 625. Trees would be removed adjacent to the roadways and along the realignment segment of FDR 625.

This alternative would not affect Northern Goshawk nesting habitat. It would result in the removal of 77 ponderosa pines over 18" dbh, 154 oaks over 6" dbh, and at least 12 juniper over 6" dbh from potential foraging habitat for this species [PR #17]. Increased traffic volume and speed due to paving would further reduce the quality of potential winter foraging habitat for this species. Development of subdivision within the foraging habitat of this species, and increased traffic volume along SR87 are other projects affecting this species. The cumulative effects contributed by this project through increased traffic volume and loss of habitat are negligible.

This alternative may eliminate some habitat for olive-sided flycatcher. This species is not known to occur in or immediately adjacent to the project areas. Only a portion, if any, of the areas affected would be expected to support this species. Increased vehicle traffic and speed due to paving may discourage olive-sided flycatchers from nesting in the vicinity of the roadways. . Development of subdivision within the foraging habitat of this species, and increased traffic volume along SR87 are other projects affecting this species. The cumulative effects contributed by this project through increased traffic volume and loss of habitat are negligible.

Due to poor habitat conditions, this alternative is unlikely to affect the Cordilleran flycatcher. There would be no cumulative effects.

Due to the lack of suitable habitat, this alternative would not impact the purple martin. There would be

no cumulative effects.

Alternative #2 (No Action Alternative):
Under this alternative, there would be no removal of trees as a result of roadway widening and realignment, and activities would be restricted to routine maintenance activities within the existing road profile. This alternative would have no effect on the four priority migratory birds identified by the Arizona Partners in Flight Bird Conservation Plan beyond the existing condition. There would be no cumulative effects.

Alternative #3 (Maintenance with a dust palliative, but no widening/straightening):
Environmental consequences of this alternative would be similar to those under Alternative #2 (No Action). Periodic application of dust palliative to the road surface would reduce fugitive dust, but would not substantially increase traffic volume or speed on these roadway segments. This alternative would have no effect on the four priority migratory birds identified by the Arizona Partners in Flight Bird Conservation Plan beyond the existing condition. No increase in traffic-related mortality to elk or Abert's squirrels would be expected as a result of action taken under this alternative. There would be no cumulative effects.

Alternative #4 (Widening FDR 316 and widening/straightening FDR 625, dust palliative on road surfaces):
Environmental consequences of this alternative would be similar to those under Alternative #1 (Proposed Action). Periodic application of dust palliative to the road surface would reduce fugitive dust. Widening of FDR 316 and widening and re-alignment of FDR 625 would result in higher traffic volume and speed, but these would be lower than under the Proposed Action, which proposes pavement. This alternative would remove trees from potential foraging habitat for the northern goshawk and possible breeding habitat for the olive-sided flycatcher. . Development of subdivision within the foraging habitat of this species, and increased traffic volume along SR87 are other projects affecting this species. The cumulative effects contributed by this project through increased traffic volume and loss of habitat are negligible.

AIR QUALITY

Affected Environment

The project area is located on the top of the Colorado Plateau within the Little Colorado air shed and is classified as a Class II air shed. A Class II air shed is any area where the air is cleaner than federal air quality standards and which is designated for a moderate degree of protection from future air degradation. Moderate increases in new pollution may be permitted in a Class II air shed.

The State of Arizona has adopted National Ambient Air Quality Standards (NAAQS) for several key pollutants, including Carbon Monoxide, Nitrogen Dioxide, Particulate Matter, Ozone, Sulfur Dioxide and Lead. Because FDR 316 and 625 are subjected to relatively light traffic loads, it is believed that the only listed pollutant that may approach NAAQS limits is Particulate Matter. The NAAQS limit for Particulate Matter is as follows:

State and Federal Ambient Air Quality Standards			
Pollutant	**Averaging Time**	**Primary Standard**	**Secondary Standard**
Particulate Matter (PM_{10}) in micrograms per cubic meter	24-hr Annual	150 50	150 50

No testing was performed to ascertain existing background dust levels.

Environmental Consequences

Alternative #1 (Proposed Action; Widen, realign and pave):
Under this alternative there is expected to be some fugitive dust from construction. Prevailing southwest winds will carry dust north and east across the Little Colorado air shed. There is a possibility that dust could waft over residential subdivisions, namely Clear Creek Pines 3 & 7, 4, 5 & 6 and possibly Pine Canyon and Starlight Pines, however these subdivisions are one mile or more in distance from origin and dust would likely dissipate before reaching these residential areas.

Implementation of Alternative #1, along with past, present and reasonably foreseeable actions, would have no cumulative effects on air quality. The created fugitive dust from construction operations are short term in nature only. The long-term benefit of paving both Forest Roads 316 and 625 is that air quality for the area will improve because paved road surfaces generate far less dust than unpaved road surfaces. Residential road traffic will no longer be contributing to air quality degradation along FDR 316 and FDR 625.

This alternative meets the Purpose and Need as stated in Chapter 1 for reducing airborne dust created by residential road travel to meet ADEQ air quality standards.

Alternative #2 (No Action Alternative):
Since there will be no construction, paving, widening, or application of any dust palliative, it is expected that dust conditions will remain the same and there may be times when the Federal Ambient Air Quality Standards would be violated from traffic induced airborne particles.

Implementation of Alternative #2, along with past, present and reasonably foreseeable actions, would have no cumulative effects on air quality. The created fugitive dust from residential and forest visitor traffic may increase proportionally with local population increases and as the number of forest visitor's increase.

This alternative will not meet the Purpose and Need as stated in Chapter 1 for reducing airborne dust created by residential road travel.

Alternative #3 (Maintenance with a dust palliative, but no widening/straightening):
Under this alternative there would be no road construction, hence no fugitive dust from road construction equipment, however, the road will remain dirt and only a palliative would be applied. Palliative would reduce the airborne dust but only on a short-term basis. The nature of palliative application is that it requires repetitive treatment at regular intervals to be effective.

Implementation of Alternative #3, along with past, present and reasonably foreseeable actions, would have no cumulative effects on air quality. The created fugitive dust from residential and forest visitor traffic may increase proportionally with local population increases and as the number of forest visitor's increase, however the regular application of a palliative would offset any negative affects of dust.

This alternative only partially meets the Purpose and Need as stated in Chapter 1 for reducing airborne dust created by residential road travel because of the short-term effectiveness of the palliatives.

Alternative #4 (Widening FDR 316 and widening/straightening FDR 625, dust palliative on road surfaces):
Under this alternative there would be road construction to widen and straighten FDR 316 and FDR 625. It is expected that there would be some fugitive dust from road construction equipment, however, the road will remain dirt and only a palliative would be applied. Palliative would reduce the airborne dust but only on a short-term basis. The nature of palliative application is that it requires repetitive treatment at regular intervals to be effect.

Implementation of Alternative #4, along with past, present and reasonably foreseeable actions, would have no cumulative effects on air quality. The created fugitive dust from residential and forest visitor traffic may increase proportionally with the local population and forest visitor increase however; the regular application of a palliative would offset any negative affects.

This alternative only partially meets the Purpose and Need as stated in Chapter 1 for reducing airborne dust created by residential road travel because of the short-term effectiveness of the palliatives.

PUBLIC SAFETY

Affected Environment

The current road width on both FDR 316 and 625 is 20 feet. Based on the volume and type of traffic these roads carry, the County's Engineering Design and Construction Criteria (Oct. 2001) width for residential use roads is 28 feet [PR #7, 12, 15].

The current drainage ditches are inadequate for the wet weather conditions, and water often runs across the surface, causing washout conditions in the monsoon season, and icy build-up in the winter.
FDR 625 enters SR87 on a blind curve, an unsafe location for traffic either entering the highway or turning onto FDR 625.

Currently, the school bus must make a backing turn immediately prior to picking up or dropping off students at the 316 road entrance onto the private land near CCP units 3 & 7. This violates school district safety policies.

From the scoping comments we received, there are some people who believe that if FDR 316 and FDR 625 are paved that it will encourage increased speeding on these roads, creating an unsafe condition. It is also believed that by paving these two forest roads it will increase the volume of traffic and subsequently decrease security to existing residential homes. The thought is that paving will be an

attractant to the casual and otherwise unwanted element of society who are not residents of the local area.

Environmental Consequences

Alternative #1 (Proposed Action; Widen, realign and pave):
Under this alternative, the roads would have alignment changes, be widened and paved to meet current accepted safety standards. The FDR625/SR87 intersection would be re-aligned to provide access onto a straight section of SR87. Additionally, a bus turnaround would be constructed near the end of FDR316 at the CCP Units 3 & 7 subdivision entrance. The construction proposed under this alternative meets the Purpose and Need for public safety.

Alternative #2 (No Action Alternative):
This alternative leaves in place the sub-standard road widths and the dirt road surfaces, with their existing dust, drainage, and unsafe alignment issues. This alternative will not meet the Purpose and Need as set forth in Chapter 1 of this document for public safety.

Alternative #3 (Maintenance with a dust palliative, but no widening/straightening):
This alternative leaves in place the sub-standard road widths and the dirt road surfaces, with their existing drainage and unsafe alignment problems. Some measure of dust mitigation can be expected from application of a dust palliative, but the required frequency of palliative application may preclude a dust-free travel environment on these roads at all times. This alternative will not meet the Purpose and Need as set forth in Chapter 1 of this document for public safety

Alternative #4 (Widening FDR 316 and widening/straightening FDR 625, dust palliative on road surfaces):
This alternative will eliminate many, but not all, of the existing drainage and unsafe alignment problems. Some surface drainage problems can always be expected to evolve on an unpaved road surface (potholes, washboard, etc). Some measure of dust mitigation can be expected from application of a dust palliative, but the required frequency of palliative application may preclude a dust-free travel environment on these roads at all times. This alternative meets the safety items in the Purpose and Need at a slightly lower level than Alternative 1 because it does not provide for a deceleration lane on SR87.

TRANSPORTATON

Affected Environment

Both Forest Roads 316 and 625 are specifically addressed in the Coconino National Forest Roads Analysis Plan. They were both High Value for fire, timber and emergency egress, and considered high risk for Right of Way issues [PR # 24].

HERITAGE RESOURCES

Northland Research, Inc. performed cultural surveys on FDR 625 in July of 1998, and on FDR 316 in October of 1994. Included in Northland's scope of work was a review of previous cultural survey

performed on the subject roads. Cultural sites were found in the 100% survey of FDR 625 and FDR 316. These sites can be mitigated by avoidance during the construction process [PR #2, 3, 4, 6, 8].

Pursuant to the recommendations set forth in the cultural surveys by Northland Research, Inc. (Appendix C), all cultural sites falling within the proposed realignments of FDRs 316 and 625 can be mitigated by avoidance during the construction process. Cultural sites would be located and marked prior to initiating construction to facilitate site avoidance.

Affected Environment

The Forest Roads 316 and 625 analysis area is located on the Mogollon Plateau, just northeast of the Blue Ridge Ranger Station. The entire project area has been intensively surveyed for Heritage Resources (Dosh 1994, 1998; Martine 2003). This is consistent with direction provided in the Coconino National Forest Land and Resources Management Plan (USDA 1987, as amended) [PR #1], which stipulate that 100% survey will occur in areas where projects cause complete surface disturbance. Two heritage resource sites, AR-03-04-07-116 and AR-03-04-07-117, are present in the project area. This supports the Coconino National Forest Site Density Prediction Model, which predicts a moderate to high site density for this area.

Both archaeological sites in the analysis area are the product of Native American use of the region. Sites AR-03-04-07-116 and AR-03-04-07-117 are sparse artifact scatters produced by seasonal plant and animal procurement and processing. Neither site has been assigned a specific temporal or cultural designation, but both are probably associated with nearby early Sinagua settlements. Sites AR-03-04-07-116 and AR-03-04-07-117 have both been formally determined ineligible for the National Register of Historic Places because of their limited research potential. This region of the Mogollon Plateau contains many similar artifact scatters and habitation sites. One such Sinagua habitation site that was excavated in the nearby Starlight Pines sub-division dated to the period between 730 AD and 830 AD and contained an assortment of animal and plant remains and plant-processing tools, confirming seasonal use of the area by early Sinagua populations (Neal and Fox 1999). While nearby areas were used by historic ranchers, no historic sites are in the project area.

Environmental Consequences

Alternative #1 (Proposed Action; Widen, realign and pave):
Alternative 1 is the Proposed Action. Implementation of Alternative 1 would entail widening the FR 316 and 625 roadbeds from 20 feet to 28 feet, paving both road surfaces, creating new and replacing existing drainage structures, building a graveled school bus turnabout on FR 316 on Forest land south of a private land boundary, closing 2,200 feet of FR 625 at the current intersection of FR 625 and State Route 87, re-aligning a 984 foot section of FR 625 to create a new intersection with State Route 87, creating a deceleration lane for westbound traffic at the FR 625/State Route 87 intersection, and removing over 200 trees.

- **Direct and Indirect Effects**
  Because Sites AR-03-04-07-116 and AR-03-04-07-117 will be avoided, there will be no direct or indirect effects to Heritage Resource sites in the analysis area from implementation of the Proposed Action.

- **Cumulative Effects**
  There would be no cumulative effect to the sites from implementing the Proposed Action.

Alternative #2 (No Action):
This alternative serves as a baseline with which the proposed action is compared. Under this alternative, none of the proposed action elements would be implemented. Routine maintenance would continue to be done as it is currently. Alternative #2 is a requirement of NEPA [40CFR 1502.14 [d]].

- **Direct and Indirect Effects**
  There would be no direct or indirect effects from implementing Alternative 2.

- **Cumulative Effects**
  There would be no cumulative effect to the sites resulting from implementation of Alternative 2.

Alternative #3 (Maintenance with a dust palliative, but no widening/straightening):
Alternative 3 was developed to address concerns about decreased security that would result from increased traffic caused by paving Forest Roads 316 and 625. This alternative proposes applying a dust palliative to road surfaces prior to grading. Frequent grading would continue, and no road widening, paving, drainage improvement, or road realignment would be performed on Forest Roads 316 or 625.

- **Direct and Indirect Effects**
  There would be no direct or indirect effects from implementing Alternative 3.

- **Cumulative Effects**
  There would be no cumulative effect to the sites resulting from implementation of Alternative 3.

Alternative #4 (Widening FDR 316 and widening and straightening FDR 625; dust palliative on road surfaces):
Alternative 4 addresses the issue of safe ingress and egress to State Route 87 from Forest Road 625, and addresses air quality and drainage standards. This alternative is the same as the proposed action except the gravel surfaces would remain and a dust palliative would be applied instead of paving.

Direct and Indirect Effects
Because Sites AR-03-04-07-116 and AR-03-04-07-117 will be avoided, there will be no direct or indirect effects to Heritage Resource sites in the analysis area from implementation of Alternative #4.

Cumulative Effects
There would be no cumulative effect to the sites from implementing the Alternative #4.

ENVIRONMENTAL JUSTICE

Executive Order 12898 (February 11, 1994) directs federal agencies to focus attention on the human health and environmental condition in minority communities and low-income communities. The

purpose of the Executive Order is to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects on minority populations and low-income populations. The principle behind Environmental Justice is simple: people should not suffer disproportionately because of their ethnicity or income level.

The Proposed Action and the alternatives to it have no effect on the Environmental Justice issue, as all residents will be equally affected by the proposed alternatives, regardless of ethnicity or income level.

Chapter 4 – LIST OF PREPARERS

Coconino National Forest - Mogollon Ranger District Personnel

Carol Holland	**District Planning Staff**
Patricia Callaghan	**District Public Services Staff**
Cathy Taylor	**District Wildlife Biologist**
Kristen Martine	**District Archeologist**
Henry Brill	**District Lands Forester**
Frank Protiva	**Shephard-Wesnitzer, Inc.**

Chapter 5 – APPENDICES

Appendix A

Map 1 Project Vicinity Map
Map 2 shows the location of FDR 316 as it accesses CCP Units 3 & 7.
Map 3 shows the location of FDR 625 as it accesses CCP subdivision 4, 5 & 6.

Appendix B

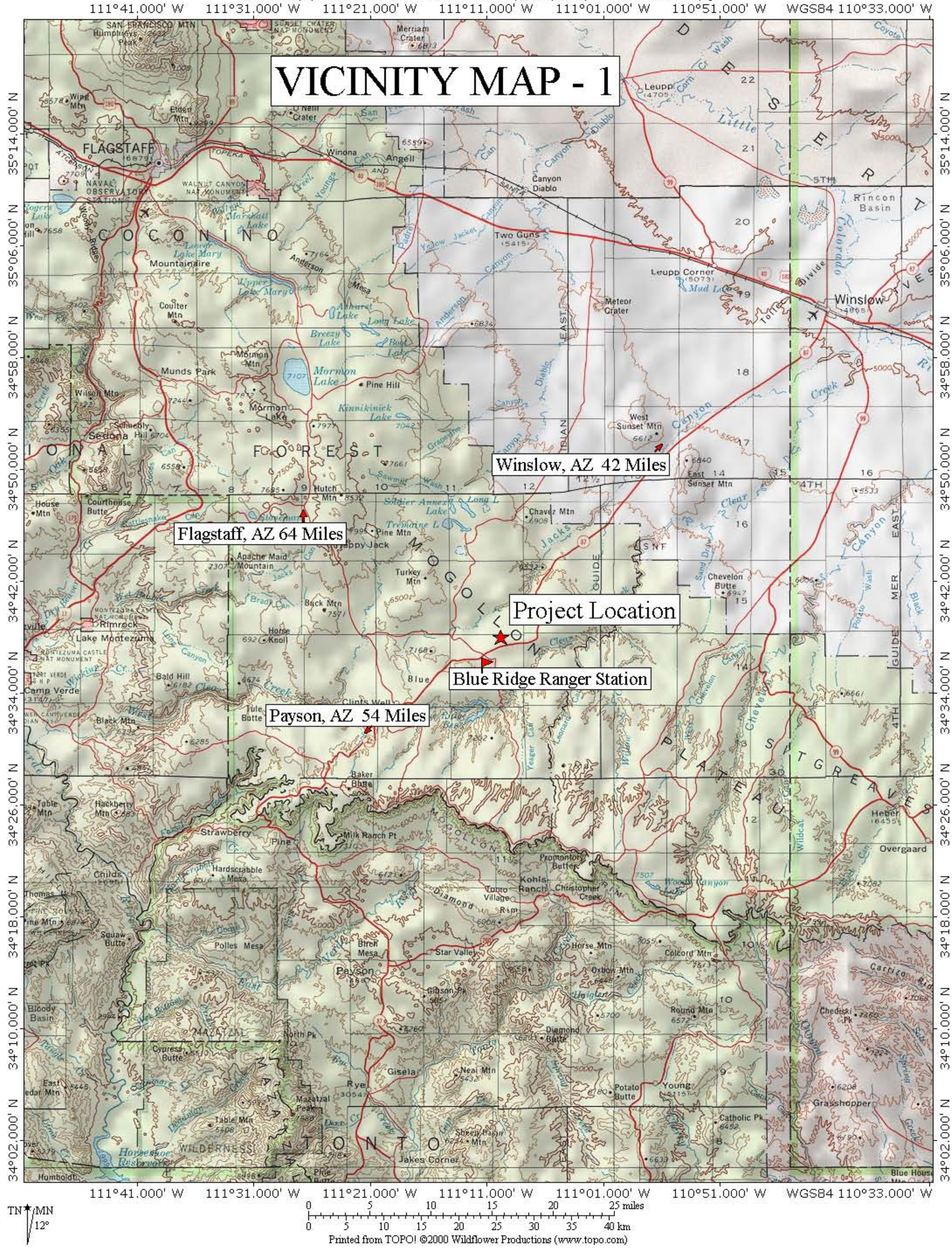
Table Of Potential Tree Loss

Appendix C

Summary of EA Response to Comments

APPENDIX A

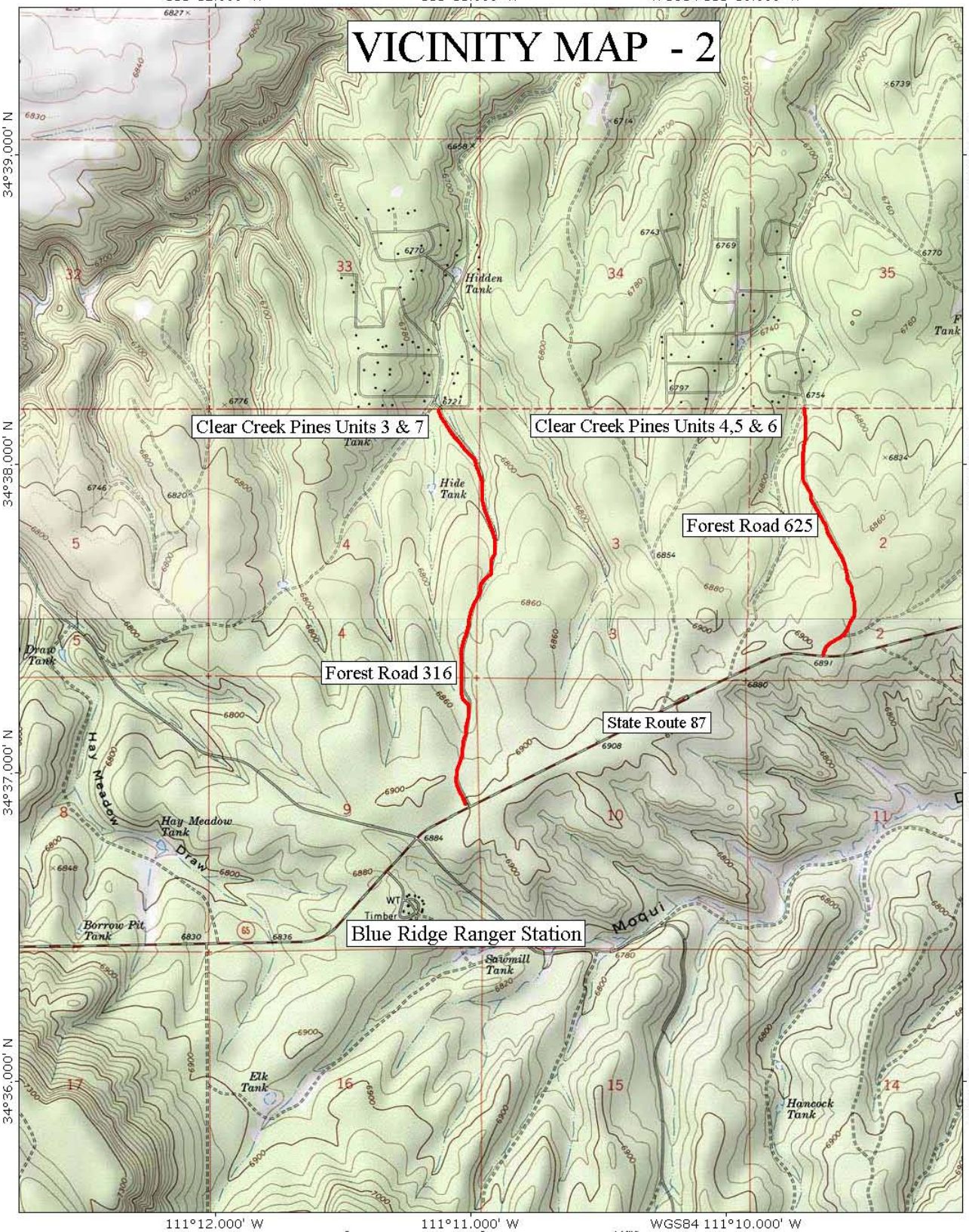
TOPO! map printed on 09/25/03 from "vicintiy_ map_1.tpo" and "Untitled.tpg"

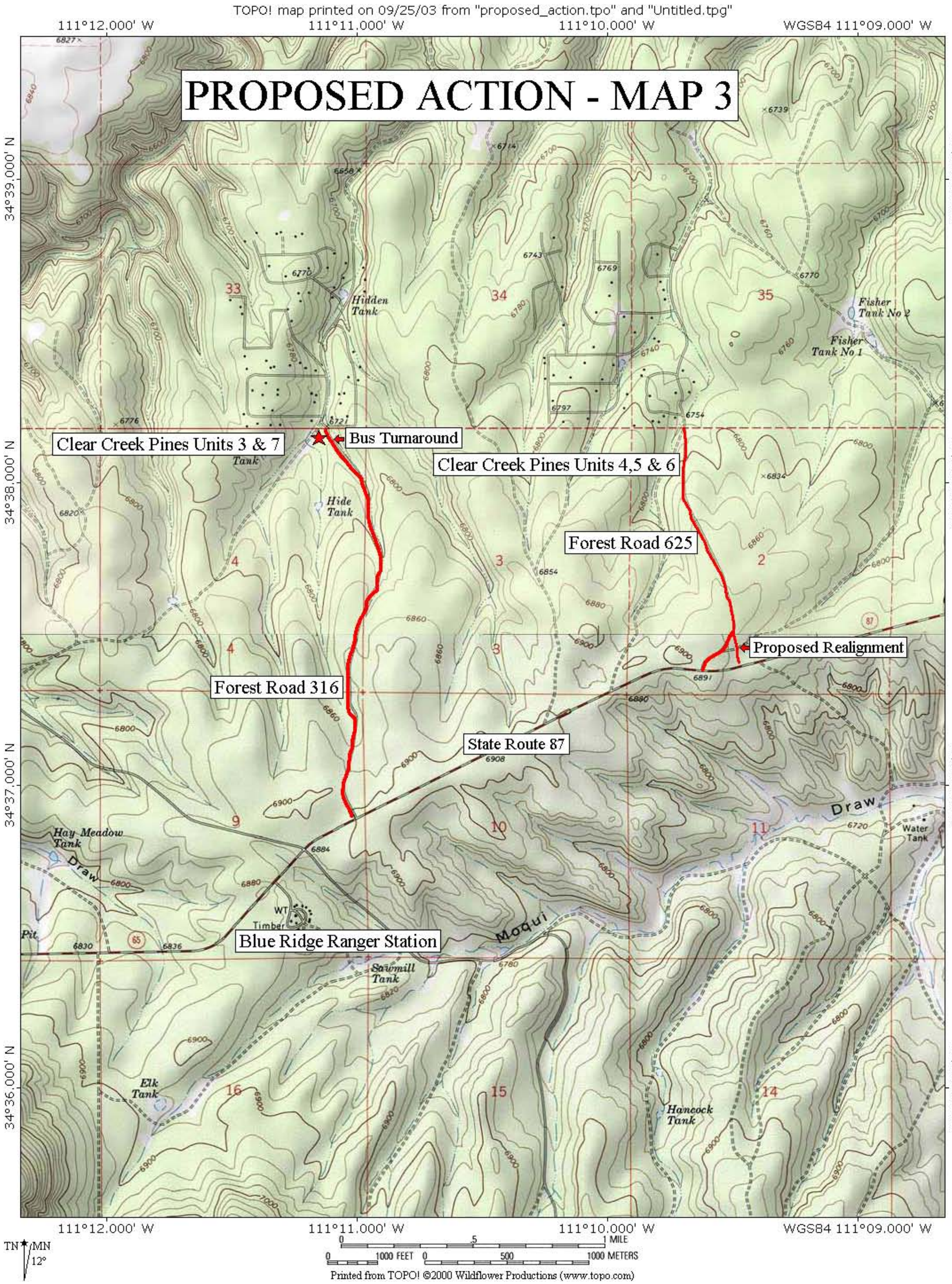


Printed from TOPO! ©2000 Wildflower Productions (www.topo.com)

TOPO! map printed on 09/25/03 from "vicintiy_ map.tpo" and "Untitled.tpg"

VICINITY MAP - 2




TOPO! map printed on 09/25/03 from "proposed_action.tpo" and "Untitled.tpg"
PROPOSED ACTION - MAP 3
Clear Creek Pines Units 3 & 7
Bus Turnaround
Clear Creek Pines Units 4,5 & 6
Forest Road 625
Forest Road 316
Proposed Realignment
State Route 87
Blue Ridge Ranger Station
Hidden Tank
Hide Tank
Fisher Tank No 2
Fisher Tank No 1
Hay Meadow Tank
Moqui Draw
Sawmill Tank
Elk Tank
Hancock Tank
Water Tank
111°12.000' W
111°11.000' W
111°10.000' W
WGS84 111°09.000' W
34°39.000' N
34°38.000' N
34°37.000' N
34°36.000' N
TN MN 12°
1 MILE
1000 FEET
500
1000 METERS
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APPENDIX B

Table of Potential Tree Loss In Right-of-Way for Forest Road 316			
Size Class Diameter-Breast-Height	**Ponderosa Pine**	**Alligator Juniper**	**Oak**
< 6”	**1708**	**200**	**810**
6-11.9”	**246**	**34**	**28**
12-17.9”	**50**	**2**	**-**
>18”	**42**	**4**	**8**
Summary of Potential Tree Loss in Right-of-Way for Forest Road 625			
Size Class Diameter-Breast-Height	**Ponderosa Pine**	**Alligator Juniper**	**Oak**
< 6”	**600**	**450**	**652**
6-11.9”	**44**	**60**	**84**
12-17.9”	**14**	**12**	**12**
>18”	**48**	**14**	**4**

APPENDIX C

Summary of EA Comments

Project: Forest Roads 316 and 625 Improvements

Legal Notice for Comment Publication Date: October 10, 2003
End of Comment Period: November 10 2003

36 CFR 215.6 (a) (3) *Requirements.* Individuals and organizations wishing to be eligible to appeal must provide the following: (i) Name and address. (ii) Title of the proposed action. (iii) Specific substantive comments (215.2) on the proposed action, along with supporting reasons that the Responsible Official should consider in reaching a decision. (iv) Signature or other verification of identity upon request; identification of the individual or organization who authored the comment(s) is necessary for appeal eligibility.

The comments received are herein identified as either being a "Substantive Comment" or not. To meet the definition of being a "Substantive Comment", the comment must meet the following two criteria: 1), the comment must be within the scope of the proposed action, specific to the proposed action, and have a direct relationship to the proposed action; and 2), the comment must include supporting reasons for the Responsible Official to consider.

Comments were received from 10 individuals.

Comment # Submitted By:	**Date Comment Received**	**Meets Substantive Criteria #1**	**Meets Substantive Criteria #2**	**Substantive Comment? (Yes/No)**
#1 – Rev. Sanders Barnes	10.20.03	Yes	Yes	**Yes**
Comments		**Responsible Official's Consideration of Comment**		
First, the dust that causes so many driving dangers would be totally eliminated.		Thank you for your comments. We are continuing to work with Coconino County towards meeting the safety concerns of these roads.		

Second, the frequent operation of a road grader required for routine roadbed maintenance would be eliminated, consequently freeing up that service, and the funds required to render that service, to be better used elsewhere.				
Third, in view of the fact that the Forest Service allows cattle on the road from time to time, a paved surface would provide much greater braking ability to avoid hitting cattle.				
And finally, last months' downpour proved, once again, that the road drainage is indeed insufficient, and sub-standard according to Coconino County standards.				
…I realize that a paved surface would almost certainly increase the tendency of motorists to travel at speeds in excess of the 25 MPH limit, but I believe with a little time…, that will all come into place.				
Comment # **Submitted By:**	**Date Comment Received**	**Meets Substantive Criteria #1**	**Meets Substantive Criteria #2**	**Substantive Comment? (Yes/No)**
#2 - Elmer & Marion Judge	10.20.03	Yes	No	**No**
Comment		**Responsible Official's Consideration of Comment**		
We are very much in favor of the suggestion for improvement of these roads.		Thank you for your comment. We are continuing to work with Coconino County towards meeting the safety concerns of these roads.		

Comment # Submitted By:	Date Comment Received	**Meets** Substantive Criteria #1	Meets Substantive Criteria #2	Substantive Comment? (Yes/No)
#3 – David Barry	10.24.03	Yes	Yes	**Yes**
Comment		**Responsible Official's Consideration of Comment**		
I am 100% in favor of Alternate #1. I feel these improvements will increase the safety on forest Roads 316 and 625 and greatly improve egress and ingress from Forest Road 625 to State Highway 87, not only for the residents, but the school bus and ambulances, which is stationed off 625.		Thank you for your comment. This project that Coconino County has proposed will address several safety concerns and will move these roads towards meeting County safety standards.		

Comment # Submitted By:	Date Comment Received	**Meets** Substantive Criteria #1	Meets Substantive Criteria #2	Substantive Comment? (Yes/No)
#4 – Leo Wirth	10.27.03	Yes	Yes	**Yes**
Comments		**Responsible Official's Consideration of Comment**		
Please weigh me in as supporting Alternative #3 because the Preferred Plan includes asphalt paving which I find objectionable for the following reasons: 1) It will induce more undesirable traffic from #87		Per the Institute of Traffic Engineer's trip generation methodology, roadway volume is a function of land uses, not a function of roadway condition. In other words, paving the road does not generate significant additional traffic. Increases in development density on surrounding lands is the primary source of increased traffic.		
2) As straight paved roadway might become a raceway for autos, quads etc.;		It is likely that residential vehicular traffic may travel faster once the roads are paved. It is known that vehicular traffic already exceeds the posted 25 mph. As a mitigation per Chapter 2 of the EA, additional enforcement by the local Deputy Sheriff may be needed to address excessive roadway speeds.		
3) Paving would not mitigate the dust problem since the origin of the most objectionable dust problem arises from within the units themselves.		Paving will mitigate dust problems wherever it is placed. The scope of this EA did not include paving the roads within the residential subdivisions. Paving within the subdivision boundaries would have to occur as part of a Roads Improvement District, with separate tax assessments for this benefit. Paving of the roads connecting the subdivision to SR87 can be accomplished with county general fund monies.		

4) My most basic wish would be for more effective palliative dust control during the summer months if that's possible.		The economics of palliative placement were addressed in Chapter 3, Table 3. The only way to effect better dust control is to place palliatives more frequently, which increases cost and therefore does not satisfy the Purpose and Need of creating a cost-effective solution for routine road maintenance.		
Comment # **Submitted By:**	**Date Comment Received**	**Meets Substantive Criteria #1**	**Meets Substantive Criteria #2**	**Substantive Comment? (Yes/No)**
# 5 - Walt and Angie Glemba	10.30.03	Yes	No	**No**
Comment		**Responsible Official's Consideration of Comment**		
We are in favor of getting this paving and widening done. Please do not wait another ten years to complete the five year project. JUST DO IT!!!!		Thank you for your comment. We are continuing to work with Coconino County towards meeting the safety concerns of these roads.		
Comment # **Submitted By:**	**Date Comment Received**	**Meets Substantive Criteria #1**	**Meets Substantive Criteria #2**	**Substantive Comment? (Yes/No)**
#6 – Gregg & Helen Roe	11.03.03	Yes	Yes	**Yes**
Comments		**Responsible Official's Consideration of Comment**		
1) We do not feel the road needs to be aligned to the north. There already is an entrance road to the south that can converted to a new entrance with pull outs for left and right turns saving trees and dollars.		The existing two-track road to the south is too far from the present FDR 625 alignment (it is .35 miles from FDR 625) to be considered as a cost-effective alignment alternative. The proposed alignment is the shortest and safest relative to connecting at a good tangent section of SR87. It also has the best site distance in both directions.		

2) I do think that speed will be an issue and would like to see speed bumps put in as the road gets closer to the housing area.	Traffic counters capable of measuring speed will be placed near the housing areas after pavement is installed. Results from these speed studies will be used to design appropriate mitigation measures, if required.

Comment # Submitted By:	**Date Comment Received**	**Meets Substantive Criteria #1**	**Meets Substantive Criteria #2**	**Substantive Comment? (Yes/No)**
#7 – Allan and Carol Cranmer	11.04.03	Yes	Yes	**Yes**

Comments	**Responsible Official's Consideration of Comment**
1) …please note that we would prefer that it NOT be paved from Hwy 87 to the one mile mark. We believe that it just calls attention to our community from the highway.	Per the Institute of Traffic Engineer's trip generation methodology, roadway volume is a function of land uses, not a function of roadway condition. In other words, paving the road does not generate significant additional traffic. Increases in development density on surrounding lands is the primary source of increased traffic.
2) It would benefit more people if you paved it from the one mile mark to the mail boxes as virtually everyone in the development, has to travel the dirt road either to get to their houses or to get their mail.	The scope of this EA did not include paving the roads within the residential subdivisions. Paving within the subdivision boundaries would have to occur as part of a Roads Improvement District, with separate tax assessments for this benefit. Paving of the roads connecting the subdivision to SR87 can be accomplished with county general fund monies.

Comment # Submitted By:	Date Comment Received	**Meets** Substantive Criteria #1	Meets Substantive Criteria #2	Substantive Comment? (Yes/No)
#8 – Jerry A. Barrett and Colene Barrett Richard Porter	11.04.03	Yes	Yes	**Yes**
Comments		**Responsible Official's Consideration of Comment**		
Both roads are very dusty all summer and then muddy if we do have some moisture. I do not believe the 316 road has been graveled since we moved here in 1997, therefore, the dust is a big problem. The grader does not come often enough to keep it from being wash-boardy, plus there isn't enough gravel material to help the problem when he does grade. Being full-time residents this is bound to cost us with more car maintenance.		Thank you for your comments. We are continuing to work with Coconino County to address the dust, and other safety concerns.		
I have heard some complain that it ill cause people to drive faster if the road is paved, but I doubt this will be a bigger problem, it will just be a safer, wider roads that has some traction plus we won't have to deal with all the dust and mud!				
I am amazed there have not been more accidents because of the current entrance/exit position of road 625. This entrance/exit being moved to a straighter portion of Highway 87 will definitely make it safer.				
Blue Ridge Christian Church is also located off the 316 road. The activity at the church creates even more dust and traffic since the building is used for many community activities. It is also the polling place for elections, sewing clubs, painting clubs and different HOA groups.				

Both roads are very dusty all summer and then muddy if we do have some moisture. I do not believe the 316 road has been graveled since we moved here in 1997, therefore, the dust is a big problem. The grader does not come often enough to keep it from being wash-boardy, plus there isn't enough gravel material to help the problem when he does grade. Being full-time residents this is bound to cost us with more car maintenance.				
Comment # Submitted By:	**Date Comment Received**	**Meets Substantive Criteria #1**	**Meets Substantive Criteria #2**	**Substantive Comment? (Yes/No)**
#9 – Wayne Cundiff	11.07.03	Yes	Yes	**Yes**
Comments		**Responsible Official's Consideration of Comment**		
1) I said black top was a good idea in cutting down on the dust. I also believe that speed will increase because you are taking out some of the curves.		Traffic counters capable of measuring speed will be placed at strategic locations after pavement is installed. Results from these speed studies will be used to design appropriate mitigation measures and/or increase enforcement, if required.		
2 To widen the road to 28' is a good idea, but it has not been a problem in the past.		The existing 20' road width does not meet accepted safety standards. The safety of the traveling public is the main concern and widening the roads to 28' to meet these standards will help make these roads safer.		
3) Mr. Cundiff included a diagram for an alternate alignment just to the south of the existing entrance into FR 6225.		The existing two-track road to the south is too far from the present FDR 625 alignment (it is .35 miles from FDR 625) to be considered as a cost-effective alignment alternative. The proposed alignment is the shortest and safest relative to connecting at a good tangent section of SR87. It also has the best site distance in both directions.		

Comment # Submitted By:	Date Comment Received	**Meets** Substantive Criteria #1	Meets Substantive Criteria #2	Substantive Comment? (Yes/No)
#10 Dave Allen	11.13.03	Yes	No	**No**
Comment		**Responsible Official's Consideration of Comment**		
I am very much in favor of this project.		Thank you for your comment. We are continuing to work with Coconino County towards meeting the safety concerns of these roads.		
		Mr.Allen's comment was not timely as it was sent after the November 10, 2003 comment deadline.		